

9. PERSONAL PROTECTIVE EQUIPMENT

Industrial safety hazards are the primary hazards associated with WAG 7 routine monitoring tasks. Anyone entering DWAs or CWAs must be protected against potential safety and contaminant exposure hazards. In addition, personnel who enter DWAs or CWAs must wear, as a minimum, Level D PPE. Based on the sampling data available to date, groundwater chemical and radiological contaminants of concern present only a minimal exposure potential to project personnel. This section addresses required PPE for conducting routine monitoring tasks and contingencies for upgrading PPE if required.

The purpose of PPE is to shield or isolate personnel from chemical, safety, and physical hazards that cannot be eliminated through engineering or other controls. It is important to realize that no PPE ensemble can protect against all hazards under all conditions and that work practices and adequate training will also provide a greater level of protection to workers.

Selection of the proper PPE to protect project site personnel is based on the following:

- Routine monitoring of project tasks to be conducted (e.g., well sampling, field measurements, maintenance, decommissioning, and abandonment)
- Expected chemical and radionuclides that may be encountered
- Potential contaminant routes of entry
- Physical form and chemical characteristics of contaminants
- Acute and chronic effects from exposure to chemicals and radionuclides
- Local and systemic toxicity
- Anticipated exposure levels (e.g., contact and airborne)
- Hazard analysis evaluation (see Section 8).

The PPE is generally divided into two broad categories: (1) respiratory protective equipment and (2) personal protective clothing. Both of these categories are incorporated into the standard four levels of protection (Levels A, B, C, and D). Table 9-1 provides guidance in the selection process for respiratory and protective clothing. Each of the major routine monitoring tasks have been evaluated based on the site-specific hazards and the most appropriate PPE level (including modifications) has been determined. Task-based respiratory protection and the protective clothing required for WAG 7 routine monitoring tasks are listed in Table 9-1.

9.1 Respiratory Protection

Based on the tasks to be completed the quantity and form of potential hazardous constituents and engineering controls that will be implemented, respiratory protection is not anticipated to be required for routine monitoring tasks. Therefore, respiratory protection will be made available only as a contingency if action limits are exceeded or site conditions change such that additional respiratory protection is required (i.e., upgraded). If respiratory protection is required, assigned protection factors for respiratory devices will not be exceeded.

Table 9-1. Waste Area Group 7 routine monitoring project task-based personal protective equipment requirements and modifications.

Task	Level of Personal Protective Equipment	Category	Modifications and Comments
		Primary or Contingency	
All Waste Area Group 7 Routine Monitoring Activities			
<ul style="list-style-type: none">• Site preparation• Groundwater and lysimeter sampling• Groundwater field measurements• Sample preservation• Well surface maintenance and construction• Internal well component maintenance and change out• Well component decommissioning• Well abandonment	Level D	Primary	Level D PPE as defined in Section 11.2. Modification for specific hand protection for material-handling and sampling tasks will be defined by the industrial hygienist.
	Modified Level D	Upgrade contingency	Upgrading to modified Level D (e.g., protective clothing, Tyvek coveralls or equivalent) may be required if action levels are exceeded or contact with cement or bentonite material cannot be avoided (i.e., prolonged and extensive skin contact).
	Level C	Upgrade contingency	If airborne contaminants increase to concentrations above established action limits, Level C full facepiece air-purifying respiratory protection will be worn in conjunction with chemical protective clothing (cartridge to be selected by the project industrial hygienist based on airborne hazard).

If required, all personnel required to wear respirators will complete training and be fit-tested before being assigned a respirator in accordance with the training and documentation requirements of this HASP. Requirements for respirator use (i.e., emergency use, storage, cleaning, and maintenance), as stated in the MCP-2726, "Respiratory Protection," will be followed.

9.2 Personal Protective Equipment Levels

The following sections provide detail and explanation of the four levels of PPE. Modifications to these levels will be made under the direction of the HSO in consultation with the project IH and safety professional as appropriate. Such modifications are routinely employed during HAZWOPER activities to maximize efficiency and to meet site-specific needs without compromising personnel safety and health.

Table 9-1 lists each task or assignment and the corresponding PPE level as well as any additional or special items necessary for personal protection at the task site. The HSO, IH, and safety professional will determine what modifications to the PPE levels listed in Table 9-1 are appropriate.

9.2.1 Level D and Modified Level D Personal Protective Equipment

Level D or modified Level D PPE will serve as the primary PPE level for all routine monitoring tasks. Level D PPE will only be selected as a work uniform and not on a site with respiratory or skin absorption hazards requiring whole-body protection. Level D or modified Level D PPE provides no protection against airborne chemical hazards but rather is used for protection against nuisance contamination and physical hazards. Level D PPE will only be allowed in areas that have been characterized as such or are known to never have been contaminated. The Level D PPE ensemble may be modified by the IH or RCT to provide protection from skin or other physical hazards but will not include the addition of respiratory protection.

Level D PPE consists of the following:

- Coveralls or standard work clothes (as determined by the IH and safety professional)
- Hard hat
- Eye protection and safety glasses with side shields as a minimum (see MCP-2716)
- Hand protection for all material handling tasks (e.g., leather for material handling tasks and nitrile or equivalent sampling and acid-handling tasks as specified by the IH)
- Safety footwear (e.g., steel or protective toe and shank as determined by the safety professional)
- Optional Level D modifications consisting of the following:
 - Chemical protective clothing (i.e., Tyvek and Saranex) as prescribed by project IH
 - Chemically resistant hand and foot protection (e.g., inner and outer gloves and boot liners)
 - Any specialized protective equipment (e.g., hearing protection, face shields, welding goggles, and aprons)
 - Chemical goggles for cement or bentonite mixing operations.

9.2.2 Level C Personal Protective Equipment

Level C PPE will only be worn if the airborne action levels to airborne chemical levels (or other constituents) are exceeded and cannot be controlled. Additionally, task site chemical contaminants must be well characterized indicating that (1) personnel are protected from airborne exposures by wearing air-purifying respirators with the appropriate cartridges, (2) no oxygen-deficient environments exist (< 19.5% at sea level), and (3) that there are no conditions that pose immediate danger to life or health. Basic Level C PPE will include the Level D ensemble with the following respiratory and whole body protection upgrades:

- Full-facepiece air-purifying respirators equipped with a NIOSH-approved cartridge (the IH to specify type of cartridge [e.g., organic vapor, high-efficiency particulate air filter, or combination])
- Chemical-resistant coveralls (i.e., Tyvek QC, Tychem 7500, and Saranex-23-P), as prescribed by project IH
- Chemical-resistant outer shoe or boot cover (the IH to specify material)
- Inner chemical-resistant nitrile rubber gloves with cotton liners (as determined by the IH)
- Outer chemical-resistant Viton or polyvinyl alcohol gloves (as determined by the IH)
- Optional Level C modifications (any specialized protective equipment [e.g., hearing protection, welding lens, and aprons]).

9.3 Protective Clothing Upgrading and Downgrading

The project HSO in consultation with the project IH and safety professional will be responsible for determining when to upgrade or downgrade PPE requirements. Upgrading or downgrading of PPE requirements based on current conditions is a normal occurrence. If changing conditions are encountered, new work control documents (e.g., SWP and JSA) may need to be written or updated to reflect these changes. Additional reasons for upgrading or downgrading include:

- Upgrading criteria or conditions (work will stop immediately if an upgrade in PPE is required)
 - Unstable or unpredictable site hazards (chemical or other)
 - Contaminants that present difficulty in monitoring or detecting
 - Known or suspected presence of skin absorption hazards
 - Temporary loss or failure of any engineering controls
 - Identified source or potential source of respiratory hazard(s)
 - Change in the task procedure that may result in increased contact with contaminants, or a change in the requirements for meeting any of the criteria listed above.

- Downgrading criteria
 - New information of monitoring data that shows the contaminant levels to be lower than established action limits
 - Implementation of new engineering or administrative controls that eliminate or significantly mitigate hazards
 - Elimination of potential skin absorption or contact hazards
 - Change in site conditions that results in removal of physical hazards or reduces or isolates them to a controlled area
 - Completion or change in tasks that results in the elimination of key hazards that require higher levels of PPE.

9.4 Inspection of Personal Protective Equipment

All PPE ensemble components must be inspected prior to use and when in use within routine monitoring DWAs or CWAs. Once PPE is donned, self-inspection and the use of the buddy system will serve as the principal forms of inspection. If at any time PPE should become damaged or unserviceable an individual will inform others of the problem and proceed directly to the controlled work area exit point to doff and replace the equipment. Additionally, all PPE that becomes grossly contaminated with grout will be cleaned or replaced. Table 9-2 provides an inspection checklist for common PPE items.

Table 9-2. Personal protective equipment inspection checklist.

Personal Protective Equipment Item	Inspection
Gloves	<p><u>Before use:</u></p> <ul style="list-style-type: none"> • Pressurize gloves to check for pinholes. To pressurize: blow in the glove then roll until air is trapped and inspect. No air should escape. Inspect leather gloves for tears, excessive wear, or deterioration or permeation. <p><u>While wearing in the DWA or CWA:</u></p> <ul style="list-style-type: none"> • Inspect for tears, punctures, and damage. Replace if unserviceable.
Modified Level D and C clothing	<p><u>Before use:</u></p> <ul style="list-style-type: none"> • Visually inspect for imperfect seams, nonuniform coatings, and tears. Hold PPE up to the light and inspect for pinholes, deterioration, stiffness, and cracks. Check cloth coveralls for tears and rips and deterioration. <p><u>While wearing in the DWA or CWA:</u></p> <ul style="list-style-type: none"> • Evidence of chemical attack, such as discoloration, swelling, softening and material degradation. Inspect for tears, punctures, and zipper or seam damage. Check all taped areas to ensure they are still intact.
Respirators (if required) (full-facepiece, air-purifying)	<p><u>Before use:</u></p> <ul style="list-style-type: none"> • Check condition of the facepiece, head straps, valves, connecting lines, fittings, and all connections for tightness. • Check cartridge to ensure proper type or combination for atmospheric hazards to be encountered. Inspect threads and O-rings for pliability, deterioration, and distortion.
CWA – controlled work area	DWA – designated work area PPE – personal protective equipment

10. DECONTAMINATION PROCEDURES

No decontamination beyond these normal sampling equipment procedures is anticipated and typical doffing of protective clothing (if required) is anticipated during WAG 7 routine monitoring activities. If contact with potentially contaminated surfaces cannot be avoided then additional engineering controls in combination with PPE upgrades may be necessary to control the contact hazard. However, if chemical or radiological contamination is encountered at levels requiring decontamination, this section provides guidance on how it will be conducted.

10.1 Contamination Control and Prevention

Contamination control and prevention procedures will be implemented to minimize personnel contact with contaminated surfaces if such surfaces are encountered and contacted during routine monitoring activities. The following contamination control and prevention measures will be employed if contamination is encountered:

- Identification of potential sources of contamination; design containment, isolation, and engineering controls to eliminate or mitigate any potential for contact or release of contaminants
- Limitation of the number of personnel, equipment, and materials that enter the contaminated area
- Implementation of immediate decontamination procedures to prevent the spread of contamination (if contamination is found on the outer surfaces of equipment)
- Utilization of only the established control entry and exit point from the contaminated area to minimize the potential for cross-contamination and expedite contamination control surveys
- Wearing of disposable outer garments and utilization of disposable equipment (where possible)
- Using hold points within procedures and work orders to monitor for contamination where anticipated.

10.2 Equipment and Personnel Decontamination

Decontamination procedures for personnel and equipment are not anticipated to be required beyond normal PPE change out and technical procedures for sampling equipment cleaning.

10.2.1 Equipment Decontamination

Decontamination of sampling equipment will be conducted in accordance with TPR-6541 and TPR-6575, "Decontamination of Sampling Equipment in the Field." If contact with potentially contaminated surfaces cannot be avoided, then additional engineering controls in combination with PPE upgrades may be necessary to control the contact hazard. Equipment will be decontaminated based on the source of contamination.

If radionuclide decontamination operations are required for equipment or areas, they will be performed in accordance with Chapter 4 of the radiological control manual (PRD-183). Nonradionuclide decontamination will be evaluated on a case-by-case basis by the HSO and project IH to determine the most appropriate PPE (Level C protective clothing will initially be selected if airborne contaminants may

be generated until site monitoring can demonstrate downgrading is warranted). Specific personnel and equipment decontamination methods are provided below.

10.2.2 Personnel Decontamination

The WAG 7 routine monitoring activities will be conducted in Level D PPE unless upgrading is warranted. Engineering controls in conjunction with work controls and proper handling of groundwater samples will serve as the primary means to eliminate the need for personnel decontamination. If modified Level D protective clothing is required, all items will be inspected following the list in Table 9-2.

10.2.3 Decontamination in Medical Emergencies

If a person is injured or becomes ill, he or she will immediately be evaluated by first-aid trained personnel at the project task site (on a voluntary basis). If the medical condition is serious then the FTL will contact the RWMC shift supervisor (or Warning Communications Center [WCC] if the RWMC shift supervisor cannot be reached) to summon emergency services (fire department and CFA medical) to the site.

Medical care for serious injury or illness will not be delayed for decontamination. In such cases gross contamination may be conducted by removing the injured person's outer protective clothing (if possible) and other contaminated areas contained with a bag or glove. If contaminated PPE cannot be removed without causing further injury (except for the respirator which must be removed), the individual will be wrapped in plastic, blankets, or other available material to help prevent contamination of the inside of the ambulance, medical equipment, and medical personnel.

The IH or RCT (depending on the type of contamination) will accompany the employee to the medical facility to provide information and decontamination assistance to medical personnel. Contaminated PPE will then be removed at the CFA medical facility and carefully handled to prevent the spread of contamination. Chapter 5 of Companywide Manual 15B, *Radiation Protection Procedures*, and MCP-148, "Personnel Decontamination," contain information on proper handling of radionuclide-contaminated wounds.

10.3 Doffing Personal Protective Equipment and Decontamination

As stated earlier, no personnel decontamination beyond doffing of PPE is anticipated for this project. Careful removal of the outer PPE will serve as the primary decontamination method.

The specific doffing sequence of modified Level D or C PPE and associated decontamination procedures will be based on the nature of the contamination. A general approach for doffing modified Level D or C PPE is described below. However, there is no single doffing strategy that works for all circumstances. Modifications to this approach are appropriate if site conditions change or at the discretion of the project HSO in consultation with the project IH and RCT.

10.3.1 Modified Level D Personal Protective Equipment Doffing and Decontamination (If Required)

If required to be worn, modified Level D protective clothing (e.g., disposable coveralls) will be doffed following standard removal techniques (rolling outside surface inward and down) and will constitute the initial decontamination step. All PPE will be placed in the appropriately labeled containers.

10.3.2 Level C Personal Protective Equipment Doffing and Decontamination (If Required)

If respiratory protection is worn in conjunction with protective clothing (e.g., Level C PPE) then the modified Level D sequence will be followed with one additional step. That additional step is to remove the respirator and place it in a separate container from the discarded protective clothing. Depending on the type of contamination encountered, this step will be followed by a radiological survey or IH evaluation.

10.4 Disposal of Contaminated Personal Protective Equipment and Equipment

10.4.1 Storage and Disposal of Investigative Derived Waste Materials

Waste also will include PPE and miscellaneous sampling materials (e.g., paper towels, plastic bags, and gloves). Based on previous sampling at the RWMC wells it is not anticipated that any miscellaneous sampling materials will become contaminated. If contaminated, the waste will be bagged, secured with duct tape, and labeled in accordance with instructions from the RCT. The waste can be stored in the WAG 7 CERCLA cargo container pending laboratory analyses if necessary. It is expected that the waste will be handled as conditional industrial waste to comply with the waste disposal and disposition form. Free release surveys of suspected radiologically contaminated waste would be conducted in compliance with MCP-425, "Radiological Release Surveys, and the Disposition of Contaminated Materials."

Cold (nonradiological) waste are sent to the CFA landfill or another INEEL-designated solid-waste landfill. Low-level radioactive waste are stored in the WAG 7 CERCLA cargo container in the radioactive material area in accordance with MCP-3475, "Temporary Storage of CERCLA-Generated Waste at the INEEL." The waste will be evaluated for additional characterization and managed as low-level waste. Final disposition will be coordinated with Waste Generator Services.

10.4.2 Site Sanitation and Waste Minimization

Site personnel will use the portable toilet facilities provided in the RWMC WMF-657 or other RWMC area. Potable water and soap is available in these areas for personnel to wash their hands and face upon exiting the DWA or CWA.

Waste materials will not be allowed to accumulate at routine monitoring sites. Appropriately labeled containers for industrial waste and CERCLA waste (as required) will be maintained at the project site, as stated in the *Field Sampling Plan for Groundwater Monitoring of Operable Unit 7-13/14* (INEEL 2001b). Personnel should make every attempt to minimize waste through the judicious use of consumable materials. All site personnel are expected to make good housekeeping a priority at the job site.

11. EMERGENCY RESPONSE PLAN

This section defines the responsibilities for the project and the INEEL emergency response organization (ERO) by providing guidance for responding to abnormal events during project activity.

This emergency response plan addresses OSHA emergency response activities as defined by 29 CFR 1910.120/1926.65, and DOE emergencies as defined by DOE Order 151.1A, Change 2, "Comprehensive Emergency Management System," and DOE Order 232.1A, "Occurrence Reporting and Processing of Operations Information." This response plan is implemented in concert with PLN-114, *INEEL Emergency Plan/Resource Conservation and Recovery Act (RCRA) Contingency Plan*.

The INEEL Emergency Plan/RCRA Contingency Plan (PLN-114) may be activated in response to events occurring at the RWMC or at the INEEL, or at the discretion of the emergency coordinator (EC) or emergency action manager. Once the INEEL plan is activated, project personnel will follow the direction and guidance communicated by the EC.

Note: The OSHA term emergency is not defined the same as an emergency as classified by DOE Orders 151.1, Change 2, and 232.1. For this reason, the term event will be used in this section when referring to project HAZWOPER emergencies.

Emergency response plans must be developed and put into place before any project activity begins. Preplanning makes it possible for the project to anticipate and appropriately respond to abnormal events that can affect project activity. Preplanning also ensures that the project emergency response program is integrated with that of the INEEL and RWMC.

All emergencies will be reported through the RWMC shift supervisor to the ERO for classification in accordance with Section 4 of PLN-114. If the RWMC ERO is activated, site emergency response will follow the PLN-114, Addendum 3.

On-scene response to and mitigation of site emergencies could require the expertise of both INEEL personnel and INEEL fire department personnel. Emergencies that could occur include:

- Accidents resulting in injury
- Fires
- Spills of hazardous or radiological materials
- Tornadoes, earthquakes, and other adverse natural phenomena
- Vehicle or transportation emergencies
- Safeguard and security emergencies
- Emergencies at nearby facilities that could prompt evacuation or take-cover actions at the task site.

11.1 Types of Emergency Events

11.1.1 Events Requiring Emergency Notifications

Certain events require courtesy notifications but do not require a response from the INEEL ERO. In these cases, the project FTL or designee will immediately notify the RWMC shift supervisor or WCC if the shift supervisor cannot be contacted. Notification of the FTL should describe the event and state that no emergency response support is required. Examples of these types of events include but are not limited to the following:

- Personal injury at the site requiring medical evaluation or first aid treatment but not requiring an ambulance response
- Equipment or vehicle accident that results in damage to the vehicle or property ONLY
- Small fire that is immediately extinguished with a hand-held fire extinguisher (also requires notification to the INEEL fire department)
- Any other event deemed potentially reportable.

11.1.2 Events Requiring Local Project Evacuation or Idaho National Engineering and Environmental Laboratory Emergency Response Organization Response

Some events that could occur at the project site or at the RWMC may require support from the INEEL ERO or may require a local area evacuation of the project. In these cases, the project FTL will immediately notify the RWMC shift supervisor. If the shift supervisor cannot be contacted immediately then the WCC will be contacted. Notification of the FTL will describe the event and will request emergency response resources as appropriate. After being informed of the event the RWMC EC may elect to activate the command post (CP). Once the CP is operational all emergency response activities will be coordinated through the EC. The specific actions to be taken in response to emergency alarms are described in Section 11.3. Examples of these types of events include but are not limited to those listed below:

- Fire that is burning beyond an incipient stage and cannot be extinguished with hand-held extinguishers
- Large spill at the project that cannot be immediately contained or controlled
- Serious injury to a worker or workers.

A positive sweep of the site being worked will be done by the HSO and FTL prior to evacuating the site for accountability purposes.

<p>Note: When the project site has been evacuated the FTL will serve as the project area warden and ensure the RWMC shift supervisor or EC (if CP is formed) notification is made that project personnel have been evacuated and accounted for.</p>
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11.1.3 Events Requiring Total Facility and Project Evacuation

In the event of an RWMC or INEEL site facility evacuation, the FTL will verbally notify all project personnel to evacuate by using the radio or by using the local evacuation signal. The RWMC notification may be via RWMC alarms or other communication (e.g., radio) as initiated by the EC for

protective actions. For accountability purposes, a positive sweep of the site will be done by the FTL prior to evacuating the site.

Note: When an evacuation is called for by the EC, the FTL will serve as the project area warden and ensure RWMC shift supervisor and EC (if CP is formed) notification is made that project personnel have been evacuated and accounted for.

11.2 Emergency Facilities and Equipment

Emergency response equipment maintained at the site or available at the routine monitoring site includes the items described in Table 11-1. Addendum 3 to PLN-114 lists emergency equipment available at the RWMC. This includes the CP located in Building WMF-637, equipment located in Building WMF-601 (i.e., self-contained breathing apparatus, dosimeters, air samplers, decontamination and first-aid equipment, and an emergency response trailer). The INEEL fire department maintains an emergency hazardous material (HAZMAT) response van that can be used to respond to an event or emergency at the project. Fire department personnel are also trained to provide immediate hazardous material spills and medical services. At least one person with current medic and first-aid training will be present at the project to render first aid on a voluntary basis.

Table 11-1. Emergency response equipment to be maintained at the site during operations.

Equipment Name and Quantity Required	Location at Task Site	Responsible Person	Frequency of Inspection or Verification ^a
First-aid kit	Project vehicle or near DWA or CWA	HSO	Monthly—check seal only
Eyewash bottles ^b Eyewash station ^b	In or near DWA or CWA	HSO	Monthly
Hazardous materials spill kit	Project vehicle	HSO	Verification
Extra personal protective equipment	Project vehicle or support trailer	HSO	Verification
Communication equipment (operational)	Onsite	FTL	Daily radio check
Fire extinguishers ^c	In or near DWA or CWA	HSO	Monthly

a. This is verification that equipment is present at the designated project location – no inspection tag is required.

b. An eyewash bottle will be used to provide an immediate eye flush if required. The location of the eyewash station will be identified by the IH during the prejob briefing.

c. A minimum of one 10A/60BC extinguisher is required. If it is used, it will be returned for servicing and recharging.

CWA = controlled work area

DWA = designated work area

FTL = field team leader

HSO = health and safety officer

IH = industrial hygienist

11.3 Emergency Communications

In the event of an emergency, the capability to summon INEEL emergency response resources to immediately notify site personnel and inform others of site emergencies is required. Communications equipment at the task site will be a combination of radios, telephones (e.g., mobile, cellular, or facility), and pagers. Communication methods described below will be used during emergency situations.

During emergency situations the RWMC shift supervisor will be notified of any project emergency event. The RWMC shift supervisor will then make the required RWMC EC notification. The following information should be communicated, as available, to the shift supervisor:

Note: If the RWMC shift supervisor cannot be contacted then the WCC will be notified of the event and the information listed below communicated. The WCC must also be told that RWMC notification to the RWMC shift supervisor and EC has not been made.

- The caller's name, title (e.g., FTL or HSO), telephone number, and pager number
- Exact location of the emergency
- Nature of the emergency including time of occurrence, current site conditions, and special hazards in the area
- Injuries, if any, including numbers of injured, types of injuries, and conditions of injured
- Emergency response resources required (e.g., fire, HAZMAT, and ambulance)
- Additional information as requested.

11.4 Emergency Recognition and Prevention

All project personnel should be constantly alert for potential hazardous situations and signs and symptoms of chemical exposure or releases. All project personnel will be trained in proper site access and egress procedures in response to project events and INEEL emergencies as part of the project-specific training HASP. Visitors also will receive this training on a graded approach based on their access requirement. Alarm identification, location and use of communication equipment, location and use of site emergency equipment, and evacuation routes will be covered. Emergency phone numbers and evacuation route maps will be located in the project trailer. All field personnel should be familiar with the techniques for hazard recognition and assigned action levels.

11.5 Emergency Response Roles and Responsibilities

11.5.1 The Idaho National Engineering and Environmental Laboratory and Radioactive Waste Management Complex Emergency Response Organization

The INEEL ERO and RWMC ERO structures are based on the incident command system and are described in PLN-114, and Addendum 3 to that plan.

11.5.2 Project Personnel Involved in Emergencies

11.5.2.1 Field Team Leader. The FTL (or designated alternate) is responsible for initiating all requests for emergency services (e.g., fire and medical) and for notifying the RWMC shift supervisor of abnormal (or potential abnormal) events that may occur during the project. The FTL will also serve as the area warden (or designate that responsibility to another person who has been trained as area warden) and conduct personnel accountability. Personnel accountability will then be reported to the RWMC shift supervisor. Additionally, the FTL will control the scene until a higher tiered incident command system authority arrives at the scene to take control. When relinquishing this role the FTL (or designated alternate) will provide all requested information about the nature of the event, potential hazards, and other information requested. The FTL may then be asked to report to the RWMC CP and serve in a technical support capacity.

11.5.2.2 Project Personnel. Every person at the routine monitoring site has a role to play during a project event or INEEL emergency. Each employee must be constantly aware of potential problems or unexpectedly hazardous situations by immediately reporting these situations to the FTL. All personnel are expected to watch out for their fellow workers, to report their concerns to the FTL, and to respond to emergency events as described in this HASP. Roles and responsibilities are further detailed in Table 11-2.

Table 11-2. Responsibilities during an emergency.

Responsible Person	Action Assigned
FTL (or designee)	Contact RWMC shift supervisor or Warning Communications Center and signal evacuation
FTL (or designee)	Conduct accountability and report to RWMC shift supervisor
FTL (or trained designee)	Serve as area warden
HSO and medic and first-aid trained personnel	Administer first aid to victims (voluntary basis only)
FTL (or designee)	Report spill to RWMC shift supervisor ^a
FTL (or designee)	Support the RWMC command post technical representative, as requested.

a. The environmental affairs spill response categorization and notification team will be contacted by the RWMC shift supervisor or emergency coordinator.

FTL = field team leader

HSO = health and safety officer

RWMC = Radioactive Waste Management Complex

11.5.3 Spills

The only likely potential for a liquid spill requiring reporting would be from equipment refueling tasks or broken equipment hydraulic lines. If the spills are small enough to be safely contained at the task site, task-site personnel will handle spill control using spill supplies at the site and immediately report the incident to the RWMC shift supervisor. Reporting requirements will be determined by the RWMC EC in accordance with MCP-190, "Event Investigation and Occurrence Reporting." If any release of a hazardous material occurs task site personnel will comply with the following immediate spill response actions.

11.5.3.1 Untrained Initial Responder. The requirements for the untrained initial responder (or if the material characteristics are unknown) are listed below:

- Place equipment in a safe configuration
- **Evacuate** and **isolate** the immediate area
- Notify and then **seek help** from and **warn** others in the area
- **Notify FTL.**

11.5.3.2 Trained Responder. The requirements for the trained responder where material characteristics are known and no additional PPE is required are listed below:

- Place all equipment in a secure configuration
- **Seek help** from and **warn** others in the area
- **Stop** the spill if it can be done without risk (e.g., return the container to upright position, close valve, and shut off power)
- **Provide** pertinent information to the FTL
- **Secure** any release paths only in an emergency.

11.5.4 Alarms

Alarms and signals are used at the project site and the INEEL Site to notify personnel of abnormal conditions that require a specific response. Responses to these alarms are addressed in general employee training. In addition to the alarms previously described, emergency sirens located throughout the RWMC serve as the primary means for signaling emergency TAKE COVER or EVACUATION protective actions. To signal site personnel of a project-initiated emergency event, a separate set of emergency signals has been established based on horn blasts (e.g., vehicle). These signals are described in Table 11-3.

Table 11-3. Project internal emergency signals.

Device or Communication Method	Signal and Associated Response
Vehicle horn blasts	<p><u>One long blast</u>—Emergency evacuation, evacuate project site immediately. Proceed in an upwind direction to designated assembly area as specified by FTL.</p> <p><u>Two short blasts</u>—Nonemergency evacuation of immediate work area. Proceed to designated assembly area as specified by FTL.</p> <p><u>Three long blasts</u> or verbally communicated—All clear, return to project site.</p>

11.5.4.1 Take Cover—Continuous Siren. Radiation or hazardous material releases, weather conditions, or other event or emergency conditions may require that all personnel take cover indoors in the nearest building. A TAKE COVER protective action may be initiated as part of a broader response to an emergency situation and may precede an evacuation order. The order to TAKE COVER is usually announced by activating the RWMC emergency siren. The signal to take cover is a CONTINUOUS SIREN that can be heard throughout the RWMC area. Remember, **STEADY = STAY**. However, the order to take cover can also be given by word of mouth, radio, or voice paging system. When ordered to TAKE COVER, project personnel will place the site in a safe condition (as appropriate) and then seek shelter in the project trailer or vehicle (if outside the RWMC facility). Eating, drinking, and smoking are not permitted during take-cover conditions.

11.5.4.2 Total Area Evacuation—Alternating Siren. A total area evacuation is the complete withdrawal of personnel from the project site and the entire RWMC area. The evacuation signal is an ALTERNATING SIREN that can be heard throughout the SDA. Remember, **ALTERNATE = EVACUATE**. A single long blast of the vehicle horn serves as the project's alternate emergency evacuation alarm. However, the order to evacuate can also be given by word of mouth, radio, or voice paging system. When ordered to EVACUATE, project personnel will place the site in a safe condition (as appropriate) and then proceed along the specified evacuation route to the designated assembly area or as directed by the EC.

For total area evacuations, the RWMC CP is activated and all personnel will gather at the primary RWMC evacuation assembly area or the location designated by the EC. The FTL or trained alternate will then complete the personnel accountability using the attendance log. In this situation the project area warden reports the result of the accountability process to the RWMC EC.

11.5.4.3 Local Area Evacuation—Vehicle Horn Blast. A local area evacuation is the complete withdrawal of personnel from the project site but it does not require the complete evacuation of the entire RWMC or INEEL area. A single long horn blast (vehicle) will serve as the project's primary emergency evacuation signal (as listed on Table 11-3). However, the order to evacuate can also be given by word of mouth, radio, or voice paging system. When ordered to evacuate the project site, personnel will place the site in a safe condition (as appropriate) and then proceed along the specified evacuation route to the assembly area designated for local area evacuations or as directed by the FTL. Eating, drinking, and smoking are not permitted during emergency evacuations.

11.5.5 Personnel Accountability and Area Warden

Project personnel are required to evacuate the site in response to TAKE COVER, EVACUATION, and local evacuation alarms. In each case, the FTL (or trained designee) will account for the people present on the site at the time the alarm was initiated. The FTL (or trained alternate) serves as the area warden for the project and completes the personnel accountability (following positive sweeps of the project site) based on the attendance log. The results of this accountability will then be communicated to the FTL for reporting to the RWMC shift supervisor or EC (if the CP has been formed).

11.5.6 Notifications

As directed by the office of the U.S. Secretary of Energy, the RWMC SAD is responsible for immediately notifying the DOE and local off-Site agencies of all significant abnormal events that occur at the RWMC. This duty is in addition to the notification requirements established in INEEL procedures for events that are categorized as emergencies or unusual occurrences. For this reason, the project will immediately report all abnormal events that occur on the project site to the RWMC shift supervisor and to the WCC. The WCC will in turn notify the appropriate INEEL emergency response resources and other

INEEL facilities as appropriate. The RWMC shift supervisor and the WCC share the responsibility for notifying the RWMC facility manager, EC, and area director (as appropriate). Normally the FTL is responsible for making the event notifications described above. Additional project notification may be made by the FTL. The EC is the single POC between the project and the INEEL ERO and off-Site personnel or agencies. The EC will make all off-Site notifications and respond to all media requests concerned.

11.5.7 Evacuation Assembly Areas and Central Facilities Area Medical Facility

The RWMC maintains primary and secondary evacuation assembly areas (see Figure 11-1). These routes may be used in response to a total RWMC area evacuation as directed by the EC. Copies of the evacuation assembly areas and the CFA-1612 medical facility route (see Figure 11-2) will be posted at the project site in the project administrative trailer.

11.6 Reentry and Recovery

11.6.1 Reentry

During an emergency response it is sometimes necessary to reenter the scene of the event. Reasons for performing a reentry may include:

- Personnel search and rescues
- Medical first-aid responses
- Safe shutdown actions
- Mitigating actions
- Evaluating and preparing damage reports
- Radiation or hazardous material surveys.

Reentries will be carefully planned to ensure that personnel are protected from harm and to prevent initiating another emergency event. Reentry planning is undertaken as a graded approach depending on the nature of the initiating event.

11.6.2 Recovery

After the initial corrective actions have been taken and effective control established, response efforts will shift toward recovery. Recovery is the process of assessing post-event and post-emergency conditions and developing a plan for returning to pre-event and pre-emergency conditions, when possible, and following the plan to completion. The EC and emergency action manager are responsible for determining when an emergency situation is sufficiently stable to terminate the emergency and enter the recovery phase. The project manager, with concurrence from the RWMC SAD, will appoint the recovery manager.

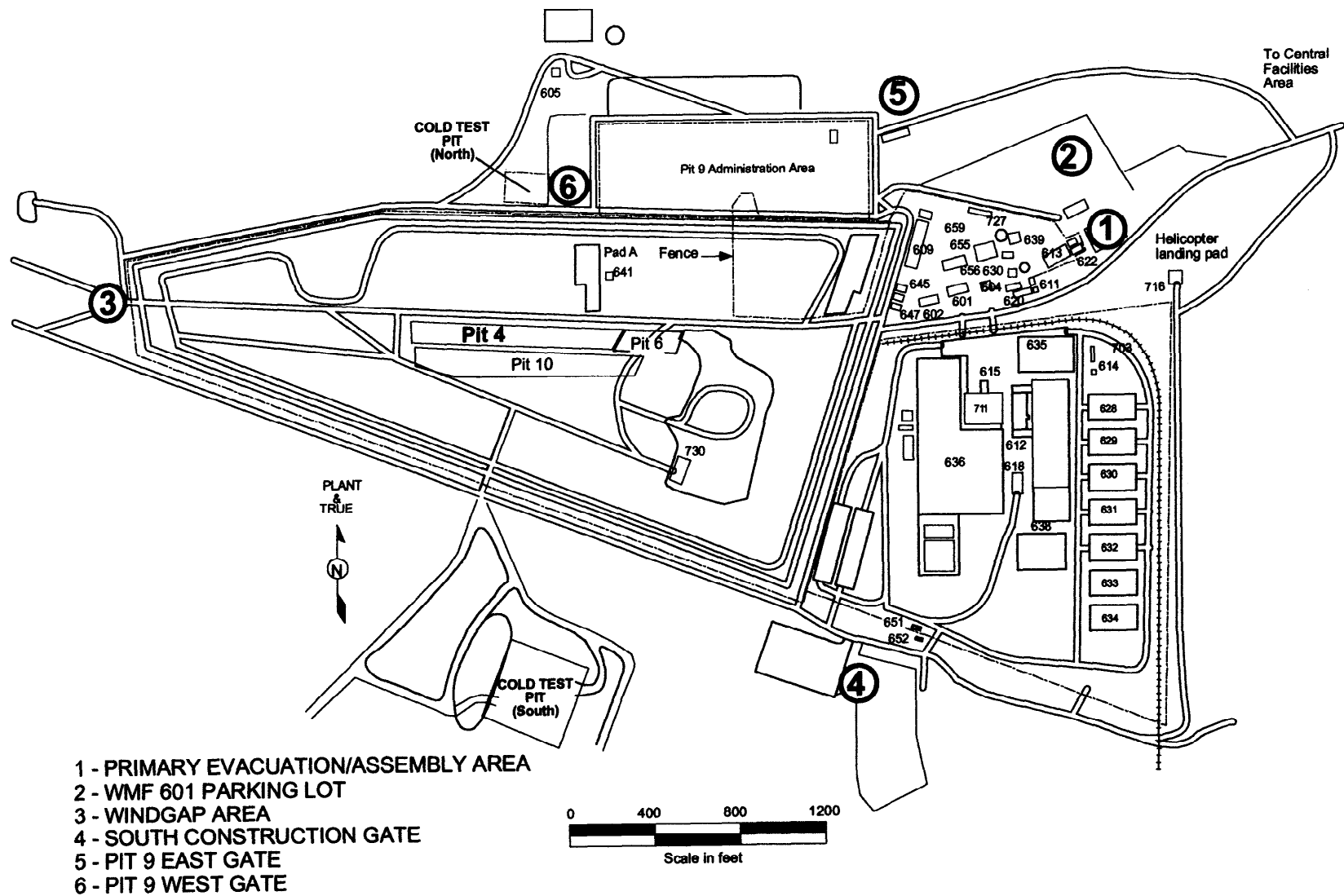
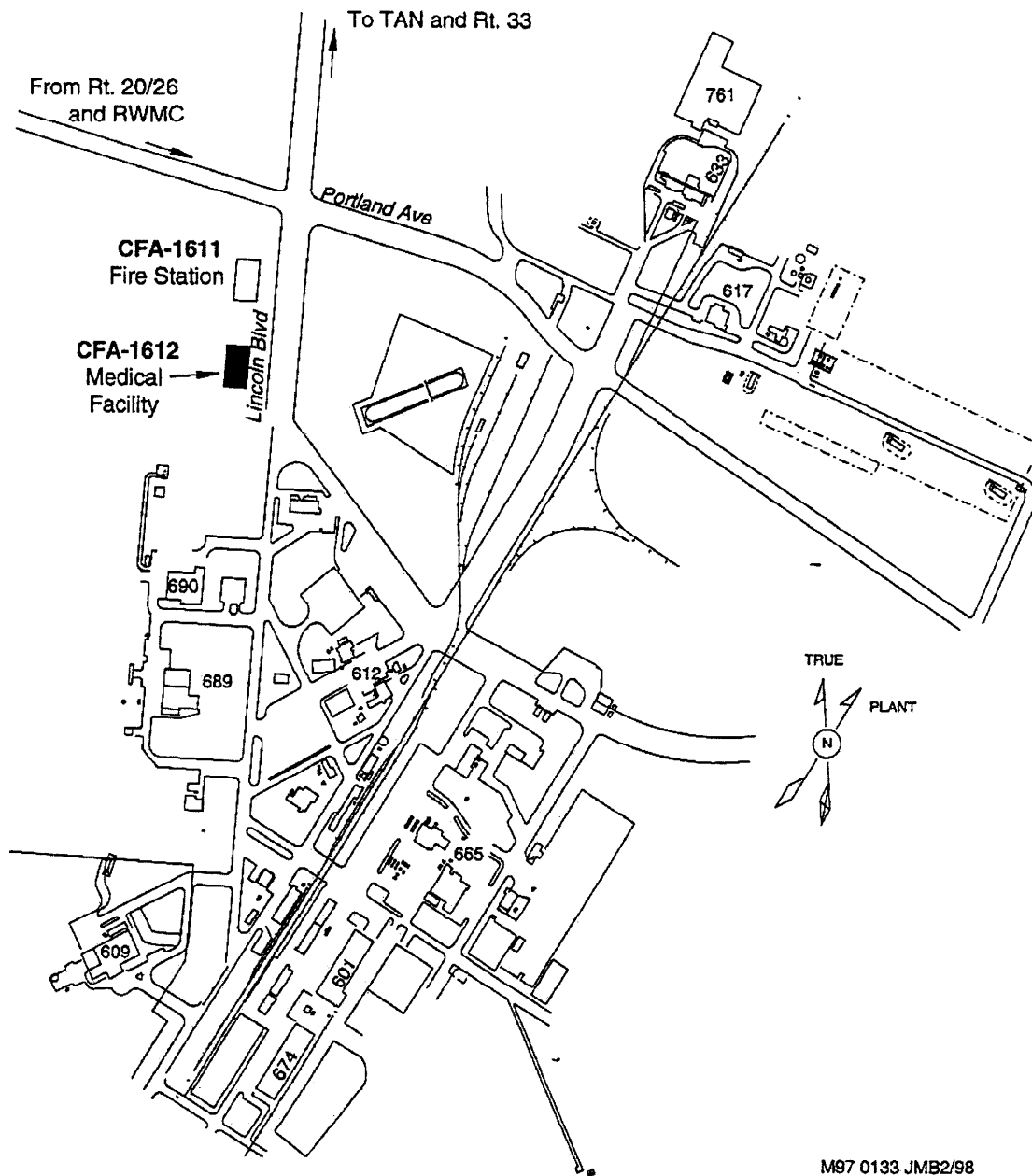


Figure 11-1. Radioactive Waste Management Complex primary and secondary evacuation assembly areas.



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Figure 11-2. Map showing the route to the nearest medical facility (CFA-1612).

11.7 Critique of Response and Follow up

A review and critique will be conducted following all emergency events, drills, and exercises at the INEEL. In some cases an investigation may be required prior to commencing recovery actions. For this reason care should be exercised to preserve evidence when appropriate.

11.8 Telephone and Radio Contact Reference List

Table 11-4 lists the POCs for the project. This list will be posted at the entrance to the WAG 7 administrative trailer and in the FTL logbook. Because personnel listed may change frequently, working copies of this list will be generated as required to note new positions and personnel assigned. This HASP should not be revised with a document action request to note these changes.

Table 11-4. Project emergency contact list.

Contact Title	Contact Name	Phone Number/Radio Net	Pager Number
Fire, medical emergency, and security Warning Communications Center		777, 6-1515	
RWMC shift supervisor		6-2767	D-Net radio
ER SH&QA manager	Charlie Chebul	6-9566	5689
Health and safety officer	Kelly A. Wooley	6-2552	7368
Safety professional	Kelly A. Wooley	6-2552	7368
Industrial hygienist	Jonathon D. Roberts	6-5386	3351
WAG 7 environmental compliance	Brent N. Burton	6-8695	7486
WAG 7 Manager	John M. Schaffer	6-3029	6451
ER LTS project manager	Doug Jorgensen	6-7022	6987
LTS project integrated groundwater lead	George Henckel	6-8446	5204
LTS project operations lead	Andrew R. Baumer II	6-3238	3482
Field team leader	Kelly A. Wooley	6-2552	7368
RWMC operations manager	Albert E. Millhouse	6-6932	5304
RWMC site area director or nuclear facility manager	David M. Bright	6-4223	5270
RWMC SH&QA manager	Randy D. Sayer	6-6619	5865
RWMC radiological control supervisor	Larry Barger	6-3742	4346
RWMC radiological engineer	W. Rick Horne	6-5318	5898
RWMC DOE-ID facility representative	Robert L. Knighten	6-5243	7273